

SHALLOW TRENCH ISOLATION (STI) REGION WITH HIGH-K LINER AND METHOD OF FORMATION

ABSTRACT OF THE DISCLOSURE

A shallow trench isolation region formed in a layer of semiconductor material. The shallow trench isolation region includes a trench formed in the layer of semiconductor material, the trench being defined by sidewalls and a bottom; a liner within the trench formed from a high-K material, the liner conforming to the sidewalls and bottom of the trench; and a fill section made from isolating material, and disposed within and conforming to the high-K liner. A method of forming the shallow trench isolation region is also disclosed.

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